Claims 1-19 are now pending in this application of which Claims 1, 6, 7, 11, and 15 have been amended. Claim 20 has been cancelled. It is respectfully submitted that the pending claims define allowable subject matter.

The rejection of Claim 6 under 35 U.S.C. § 112 is respectfully traversed. Claim 6 has been amended to overcome the issue noted in the Office Action. Accordingly, Applicants request withdrawal of the § 112 rejection of Claim 6.

The rejection of Claims 7 and 8 under 35 U.S.C. § 102(e) as being anticipated by Bassler et al. (U.S. Patent No. 6,379,184) is respectfully traversed.

It is respectfully submitted that Bassler et al. does not describe the impedance tuner block recited in Claim 7. Specifically, Bassler et al. do not describe signal contacts of a differential pair being separated from a ground contact by one of a plurality of isolation ribs along a side of the impedance tuner mating with signal contacts as Claim 7 recites.

Bassler et al. describe a connector (110) wherein an impedance of the connector may be set so that it emulates an impedance of a cable to which it is connected. The connector (110) includes housing (112) formed from a dielectric material and having leaf portions (114a), (114b) extending out from a body portion (116). The lower leaf portion (114a) includes a series of grooves or slots (118), and the upper leaf portion (114b) includes similar grooves (120). The grooves (118) and (120) are adapted to receive terminals (119). As described by Bassler et al., the terminals (119) include tunable "triplets" (A) having two signal terminals (140) and (141) and a single ground terminal (150). The signal terminals (140) and (141) are received in the slots (118) of the lower leaf (114a) of the housing body, and the ground terminal (150) is located on the upper leaf portion (114b). See Bassler et al. Col. 8, line 1 to Col. 9, line 6 and Figure 2.

It is therefore evident that Bassler et al. describe signal contacts received in grooves in one surface (the lower leaf) of a dielectric housing, and ground contacts received in grooves in a

separate surface (the upper leaf) of the dielectric housing. As the signal terminals and the ground terminals are located on different surfaces of the housing, the signal terminals are not separated from the ground terminal by the grooves in either of the surfaces.

Claim 7 is therefore submitted to be patentable over Bassler et al.

The detail recitations of Claim 8, when considered in combination with the recitations of Claim 7, are likewise submitted to be patentable over Bassler et al.

For the reasons set forth above, Applicants respectfully request that the Section 102(e) rejection of Claims 7 and 8 be withdrawn.

The rejection of Claims 1, 2, 4-6, 9-11 and 15-20 under 35 U.S.C. § 103 as being unpatentable over Bassler in view of Fogg et al. (U.S. Patent No. 5,975,960) is respectfully traversed.

Fogg et al. describe a modular contact assembly (10) including a housing (15) and a contact insert (20) adapted to receive a plurality of contacts (25) and non-ohmic plates (30), (32). Plate receptacles (54), (56) extend only partly through the insert (20) and contact channels (58) are defined in the insert (20) for receiving the contacts (25). It is clear from Fogg et al. Figure 2 that the plate receptacles and the contact channels (58) are located on a single face of the insert (20). It is evident that the plate receptacles are interior passages in the insert (20) extending longitudinally through the insert (20).

Amended Claim 1 recites an impedance tuner block insertable into a connector housing, said impedance tuner block including a first wall having at least two channels notched therein, said impedance tuner block including isolation layers formed of a dielectric material and separating said channels, each channel receiving a corresponding one of said signal contacts and each isolation layer being inserted between adjacent signal contacts when said impedance tuner

block is inserted into said connector housing, said impedance tuner block further including a second wall opposite said first wall, said second wall having at least one insert receptacle, and an impedance adjusting insert in said insert receptacle.

Neither Bassler et al. nor Fogg et al. describe a tuner block including a first wall having at least two channels notched therein and a second wall opposite said first wall, said second wall having at least one insert receptacle. Bassler et al. do not describe an impedance adjusting insert and hence does not describe an insert receptacle. Fogg et al. describe interior plate receptacles and contact channels on a single face of an insert (20), and neither of the plate receptacles or contact channels are fairly characterized as channels notched in the insert (20). Rather, the plate receptacles and contact channels are longitudinally extending interior bores formed into the insert (20).

Collectively Bassler et al. in view of Fogg et al. fail to teach or suggest each limitation of Claim 1. Accordingly, Applicants submit that Claim 1 is patentable over Bassler et al. in view of Fogg et al.

Detail claims 2 4-6, and 18, when considered in combination with the recitations of Claim 1, are also submitted to be patentable over Bassler et al. in view of Fogg et al.

Amended independent Claim 7 recites an impedance tuner formed of a dielectric material different than air and adapted to be interchangeably secured in a housing, "said impedance tuner including dielectric isolation ribs along a side of said impedance tuner mating with the signal contacts, said impedance tuner being positioned proximate the signal and ground contacts, wherein signal contacts of the differential pair are separated from the ground contact by one of said isolation ribs."

Bassler et al. in view of Fogg et al. neither describe nor suggest an impedance tuner including dielectric isolation ribs along a side thereof mating with signal contacts, the impedance

tuner being positioned proximate the signal and ground contacts, wherein signal contacts of the differential pair are separated from the ground contact by one of said isolation ribs. Rather, Bassler et al. describe signal terminals (140) and (141) received in grooves of a lower leaf (114a) of a body (116) and ground terminals (150) received in grooves of an upper leaf (114b) which is separated from the lower leaf. Fogg et al. does not describe ground contacts at all.

Collectively Bassler et al. in view of Fogg et al. fail to teach or suggest each limitation of Claim 7. Accordingly, Applicants submit that Claim 7 is patentable over Bassler et al. in view of Fogg et al.

Detail claims 9, 10 and 19, when considered in combination with the recitations of Claim 7, are also submitted to be patentable over Bassler et al. in view of Fogg et al.

Amended Claim 11 recites, in combination with an impedance tuner, a plurality of signal contacts and ground contacts aligned in a common plane. Neither Bassler et al. nor Fogg et al. describe signal and ground contacts aligned in a common plane. Bassler et al. clearly describe and illustrate and illustrate signal terminals (140) and (141) in a different plane than the ground terminals (150). Fogg et al. do not describe ground contacts at all.

Collectively Bassler et al. in view of Fogg et al. fail to teach or suggest each limitation of Claim 11. Accordingly, Applicants submit that Claim 11 is patentable over Bassler et al. in view of Fogg et al.

Detail claims 12-14, when considered in combination with the recitations of Claim 11, are also submitted to be patentable over Bassler et al. in view of Fogg et al.

Amended independent Claim 15 recites, among other things, an interchangeable impedance tuner including a plurality of dielectric isolation ribs on one side surface thereof,

wherein one of said plurality of dielectric isolation ribs is positioned between two adjacent signal and ground contacts.

Neither Bassler et al. nor Fogg et al. describe an interchangeable impedance tuner including a plurality of dielectric isolation ribs on one side surface thereof, wherein one of said plurality of dielectric isolation ribs is positioned between two adjacent signal and ground contacts. As noted above with respect to Claim 7, Bassler et al. describe signal terminals and ground terminals extending on two different surfaces. Fogg et al. describes longitudinal bores extending through an insert body rather than ribs extending on a side surface thereof.

Collectively Bassler et al. in view of Fogg et al. fail to teach or suggest each limitation of Claim 15. Accordingly, Applicants submit that Claim 15 is patentable over Bassler et al. in view of Fogg et al.

Detail claims 16 and 17, when considered in combination with the recitations of Claim 11, are also submitted to be patentable over Bassler et al. in view of Fogg et al.

Claim 20 is cancelled.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1, 2, 4-6, 9-11 and 15-20 be withdrawn.

The rejection of Claim 3 under 35 U.S.C. § 103 as being unpatentable over Bassler in view of Fogg et al. and further in view of Ortega et al. (U.S. Patent No. 6,257,587) is respectfully traversed.

Claim 3 depends from Claim 1, which for the reasons set forth above is submitted to be patentable over Bassler et al. in view of Fogg. Ortega et al. is submitted to add nothing to the combination of Bassler et al. and Fogg et al. with respect to Claim 1. None of Bassler et al., Fogg et al. and Ortega et al. describe or suggest a tuner block including a first wall having at

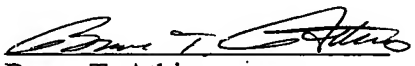
least two channels notched therein and a second wall opposite said first wall, said second wall having at least one insert receptacle as Claim 1 recites. Rather, Bassler et al. and Ortega et al. do not describe tuner blocks at all, and Fogg et al. describes an insert having contact channels and plate receptacles on a single face thereof and defining bores therethrough for receiving contacts and non-ohmic plates.

Collectively, it is submitted that Bassler in view of Fogg et al. and further in view of Ortega et al. collectively fail to teach each limitation of Claim 1. Accordingly, Applicants submit that Claim 1 is patentable, and when the recitations of Claim 3 are considered in combination with the recitations of Claim 1, Applicants submit that Claim 3 is patentable over Bassler in view of Fogg et al. and further in view of Ortega et al.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 3 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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APPENDIX

(Versions with Markings to Show Changes Made)

IN THE CLAIMS

Please cancel Claim 20 without prejudice or disclaimer.

1. (twice amended) A connector assembly, including:

a connector housing;

at least two signal contacts arranged as a differential pair and at least one ground contact held in said connector housing, said at least two signal contacts being separated by a gap;

an impedance tuner block insertable into said connector housing, said impedance tuner block including a first wall having at least two channels notched therein, said impedance tuner block including isolation layers formed of a dielectric material and separating said channels, each channel receiving a corresponding one of said signal contacts and each isolation layer being inserted between adjacent signal contacts when said impedance tuner block is inserted into said connector housing, said impedance tuner block further including a second wall opposite said first wall, said second wall having at least one insert receptacle; and

an impedance adjusting insert in said insert receptacle.

6. (twice amended) The connector assembly of claim 1 wherein said impedance adjusting [member] insert is held adjacent said differential pair.

11. (twice amended) A system for controlling impedance within an electrical connector assembly, comprising:

an electrical connector including:

a housing; and

a plurality of signal contacts and ground contacts aligned in a common plane, said signal and ground contacts held in, and exposed from, said housing, said signal contacts being arranged in differential pairs;

an interchangeable impedance tuner formed of a dielectric material different than air, said interchangeable impedance tuner, comprising:

an impedance adjusting insert; and

an insert receptacle for receiving said at least one insert,

said impedance tuner being positioned [within said cavity] proximate said plurality of signal contacts and ground contacts, wherein said impedance adjusting metal insert is oriented parallel to said signal contacts, and wherein said impedance adjusting insert overlaps at least two signal contacts.

15. (twice amended) A system for controlling impedance within an electrical connector assembly, comprising:

an electrical connector including:

a housing; and

a plurality of signal contacts and ground contacts held in, and exposed from, said housing, said signal contacts being arranged in differential pairs;

an interchangeable impedance tuner formed of a dielectric material different than air, said interchangeable impedance tuner including:

a plurality of dielectric isolation ribs on one side surface thereof;

an impedance adjusting insert; and

an insert receptacle for receiving said at least one insert,

said impedance tuner being positioned within said housing proximate said plurality of said signal contacts and ground contacts, wherein one of said plurality of dielectric isolation ribs is positioned between two adjacent signal and ground contacts, wherein said impedance adjusting insert is oriented parallel to said signal contacts, and wherein said impedance adjusting insert overlaps at least two signal contacts.